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EXAMINER	
SERRAO, RANODHI N	
ART UNIT	PAPER NUMBER
2441	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/728,236	PELES, AMIR	
	Examiner	Art Unit	
	RANODHI N. SERRAO	2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 25 September 2008 have been fully considered but they are not persuasive.

2. Applicant argued,

> *Throughout Barlett, all sites have a single link access to the network and different tunnels from one site that are connecting that site to a different destination (either a different site, or a different application in site).*
>
> *With respect to the address translation understanding of tunneling, it should first be noted that in paragraph 0040, Barlett defines tunneling in the traditional manner of encrypting the packets on a single transmission path. Nowhere does he describe the Address Translation of the present invention.*

3. The examiner respectfully disagrees. In ¶ 144 with regards to fig. 12, Barlett states, “The routing information in this table may be either statically configured or dynamically created as PEP peers are "discovered," and VPN tunnels and PEP backbone **connections** are created to the peers.” Barlett clearly teaches multiple transmission paths as shown above and therefore teaches the claimed invention.

4. Applicant also stated,

> *Claims 4, 5, 7, 11-13 and 15 were rejected under 35 U.S.C. § 102(b) as being anticipated by Halme. Halme again teaches the traditional tunneling method of encapsulation. This is specifically the case since Halme uses the IPSEC as the tunneling method which is an encapsulation method. The paragraph 0043 relied upon by the Examiner, only mentions the standard encapsulation methods of modifying the IP addresses. However, this is simply a single IP address for an associated service provider connection. There is no multiple links available between each site and the common network, there is no selection of one link from one site and the other link from a different site to form multiple available tunnels, there is no teaching of the individual association of a particular station with each of the links available to it at its site. On the contrary, the same tunnel*

address may be used for multiple internal stations using the encapsulation method of Halme.

5. The examiner points out that in ¶ 23, Halme states, "FIG. 3 shows the internal network A of site A, internet 10, and internal network B of site B. Site A has three VPN nodes A1, A2, and A3, each of which is connected to both internet service providers PA1, PA2. Site B has **five VPN nodes B1, B2, B3, B4, and B5**, each of which is connected to **three ISP connections PB1, PB2, and PB3**." And in ¶ 24, states, "In such a structure as shown in FIG. 3, a data packet traversing from a host in a first internal network A to a host in a second internal network B can use **many different routes…** Consequently, there are **four route selection decisions** to be made when transmitting the packet from a host in network A to a host in network B." It is obvious that there are multiple links available between each site and the common network and there is selection of one link from one site and the other link from a different site to form multiple available tunnels.

6. Furthermore, in response to applicant's arguments, the mentioned tunnels and links have not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

7. Applicant's arguments with respect to claims 16, 18, and 28 have been considered but are moot in view of the new ground(s) of rejection. The above remarks apply fully to these claims.

8. The examiner points out that the pending claims must be "given the broadest reasonable interpretation consistent with the specification" [In re Prater, 162 USPQ 541 (CCPA 1969)] and "consistent with the interpretation that those skilled in the art would reach" [In re Cortright, 49 USPQ2d 1464 (Fed. Cir. 1999)]. In conclusion, upon taking the broadest reasonable interpretation of the claims, the cited references teach all of the claimed limitations. And the rejections are maintained. See below.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 16 recites, “an address” multiple times in lines 12 and 14-15. It is unclear whether the second recitation of “an address” refers back to the first or not.

12. Claim 18 recites, “said site” in line 14. It is unclear if this is referring to the first site or the second site. Therefore the claims are indefinite.

Claim Rejections - 35 USC § 102

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Bartlett et al. (2003/0177396). Bartlett et al. teaches a method, implemented in a multi-homing tunneling device associated with a first site, to collect availability and latency information via polling a remote device at a second site over one or more tunnels (¶ 11), said first and second sites each being respectively connected through a common external network, each of said sites being connected to said network through at least one link, the links at each site being connected through a respective one of said devices to said network (¶ 122), each tunnel connecting one link at the first site and one link at the second site such that there can be more than one tunnel from the first site to the second site (¶ 152), said method comprising the steps of: (a) creating a first tunnel between a single link in said first site and another single link in said second site (¶ 48); (b) generating packet-based traffic and polling said remote device with said generated traffic over said created first tunnel; and (c) based upon said polling, verifying functionality of said created tunnel, determining at least one of the following: a round trip time associated with transmission of packets or a packet loss ratio between transmitted packets and received packets (¶ 74-78), and (d) creating a different tunnel between said first site and said second site (¶ 4 and ¶ 48).

15. Claims 4, 5, 7, 11-13, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Halme (2002/0027884).

16. As per claim 4, Halme teaches a method, implemented in a multi-homing tunneling device associated with at least one station in a first site, facilitating tunnel-based packetized communication transmission from a first station in said first site to a second station in a second site via one or more links communicating over one or more networks, there being one or more links connecting the first site to said networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said network (¶ 23), said first station having a first station address associated with an internal network of said first site and said second station having a second station address associated with an internal network of said second site, said method comprising the steps of: (a) receiving a packet from said first station, said packet identifying said first station address as a source address and identifying said second station address as a destination address (¶ 43); (b) selecting, for transmission of said packet, a tunnel among a plurality of available tunnels between the first and second site, each of said tunnels formed between a single link in said first site and another single link in said second site (¶ 44); (c) based on said selected tunnel in (b), identifying a source tunnel address associating said source address with the single link at the first site being used by the selected tunnel and identifying a destination tunnel address associating said destination address with the another single link at the second site being used by the selected tunnel (¶ 22); (d) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively

(¶ 43); and (e) transmitting said modified packet through a link corresponding to said selected tunnel (¶ 60-65).

17. As per claim 5, Halme teaches a method, wherein additional packets between said first and second stations, are transmitted via said selected tunnel used to transmit said first packet (¶ 42).

18. As per claim 7, Halme teaches a method, wherein said source tunnel address and destination tunnel address are at least partially composed from any of the following: an IP address value, a TCP port number, a UDP port number, an IP protocol header field, an Ethernet tag, and a MPLS tag value (¶ 43).

19. As per claim 11, Halme teaches a method, wherein each link is assigned a link preference weight identifying relative priority among available links, said link preference weight used in selection step (b) (¶ 39).

20. As per claim 12, Halme teaches a method, wherein each tunnel between two sites is assigned a tunnel latency weight representing at least one of the following values: a round trip time value or a packet loss ratio value associated with a tunnel compared to a remainder of tunnels, said tunnel latency weight used in selection step (b) (¶ 57).

21. As per claim 13, Halme teaches a method, wherein each tunnel between two sites is assigned a tunnel preference weight identifying relative preference among available tunnels, said tunnel preference weight used in selection step (b) (¶ 59).

22. As per claim 15, Halme teaches a method, wherein said networks is any of the following: local area network (LAN), wide area network (WAN), metropolitan area network (MAN), wireless network, cellular network, or the Internet (¶ 5).

23. As per claim 16, Halme teaches a method, implemented in a multi-homing tunneling device associated with at least a first station in a first site, facilitating the reception of tunnel-based packetized communications from a second station in a second site via one or more links communicating over one or more networks, there being one or more links connecting the first site to all networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said networks (¶ 23), said method comprising the steps of: (a) receiving a packet over a link among said one or more links, wherein said packet's destination address is a destination tunnel address of said first site and said packet's source address is a source tunnel address of the second site (¶ 43); (b) identifying an internal network address of said first station which is an address associated with the link at the first site being used in the tunnel with said destination tunnel address and an internal network address of said second station which is an address associated with the link at the second site being used in the tunnel and with said source tunnel address (¶ 44); (c) modifying said packet by replacing said destination tunnel address and said source tunnel address of said packet with said identified internal network addresses of said first station and second station respectively (¶ 22); and (d) transmitting the modified packet to said first station(¶ 60-65).

24. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Tuomenoksa et al. (2002/0023210). Tuomenoksa et al. teaches a multi-homing tunneling device located at a first site facilitating tunnel-based packetized communication transmission between a first station in said first site and a second station in a second site, said communication performed over one or more external networks, there being one or more links connecting the first site to said networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said networks (¶ 161-162), said device comprising: a first interface operatively linking said device with at least one station in said first site (¶ 92); a second interface operatively linking said device with said one or more external networks via a plurality of links, said device able to communicate, over said external networks, with at least one station on a second site via a plurality of tunnels, each of said tunnels formed between a single link in said first site and a single link in said second site; memory for storing network information associated with said tunnels and said stations said information associating a station address at said site with a link from said first site as a tunnel address (¶ 62-63); and wherein said multi-homing tunneling device receives packets, via said first interface, for transmission from a station in said first site selecting an available tunnel of the plurality of tunnels in said memory for transmitting said received packets (¶ 91), modifies the stations addresses of the received packets to the associated tunnel address based upon said identified tunnels,

and transmits, via said second interface, said modified packets over said external networks to destination stations (¶ 97-100).

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartlett et al. as applied to claim 1 above, and further in view of Neale et al.

27. As per claim 2, Bartlett et al. teaches mentioned limitations of claim 1 above but fails to teach a method, wherein transmissions from said multi-homing device to said remote device comprise the steps of: (a) for a packet to be transmitted, identifying a source tunnel address corresponding to the address associating the source address of the packet with the link at the source site being used for the first tunnel and identifying a destination tunnel address corresponding to the address associating the destination address of the packet with the link at the destination site being used for the first tunnel; (b) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and (c) transmitting said modified packet through said created tunnel. However, Neale et al. teaches a method, wherein transmissions from said multi-homing device to said remote device comprise the steps of: (a) for a packet to be transmitted,

identifying a source tunnel address corresponding to the address associating the source address of the packet with the link at the source site being used for the first tunnel and identifying a destination tunnel address corresponding to the address associating the destination address of the packet with the link at the destination site being used for the first tunnel; (b) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and (c) transmitting said modified packet through said created tunnel (see Neale et al., ¶ 190-197). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Bartlett et al. to a method, wherein transmissions from said multi-homing device to said remote device comprise the steps of: (a) for a packet to be transmitted, identifying a source tunnel address corresponding to the address associating the source address of the packet with the link at the source site being used for the first tunnel and identifying a destination tunnel address corresponding to the address associating the destination address of the packet with the link at the destination site being used for the first tunnel; (b) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and (c) transmitting said modified packet through said created tunnel in order to eliminate the conventional TCP 3-way handshake and other associated time-delay procedures and replace them with an improved use of performance enhancing proxies (see Neale et al., abstract).

28. As per claim 3, the above-mentioned motivation of claim 2 applies fully in order to combine Bartlett et al. and Neale et al. Bartlett et al. and Neale et al. teach a method, wherein reception, in said multi-homing device, of packetized data transmitted by said remote device comprises the steps of: (a) receiving a packet over said created first tunnel, wherein said packet's destination address is a destination tunnel address of said first site and said packet's source address is a source tunnel address of said second site; (b) identifying an internal network address of a first station in said first site corresponding to said destination tunnel address and an internal network address of a second station in said second site corresponding to said source tunnel address; (c) modifying said packet by replacing said destination address and said source address of said packet with said identified internal network addresses of said first station and second station respectively; and (d) transmitting the modified packet to said first station (see Neale et al., ¶ 198).

29. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halme as applied to claim 4 above, and further in view of Tuomenoksa et al.

30. As per claim 6, Halme teaches mentioned limitations of claim 4 above but fails to teach a method, wherein additional packets between said first and second stations, are transmitted via said plurality of available tunnels. However, Tuomenoksa et al. teaches a method, wherein additional packets between said first and second stations, are transmitted via said plurality of available tunnels (see Tuomenoksa et al., ¶ 79). It would have been obvious to one having ordinary skill in the art at the time of the invention to

modify Halme to a method, wherein additional packets between said first and second stations, are transmitted via said plurality of available tunnels in order to easily and effectively leverage the power of a shared or a base network, such as the Internet for private connectivity without the complexity, cost, or time associated with setting up traditional virtual private networks (see Tuomenoksa et al., ¶ 17).

31. As per claim 8, the above-mentioned motivation of claim 6 applies fully in order to combine Halme and Tuomenoksa et al. Halme and Tuomenoksa et al. teaches a method, wherein said method additionally comprises the step of monitoring and identifying link failure in links associated with each site, and upon identification of such a failed link, instructing a device associated with said failed link to exclude said failed link and tunnels associated with said failed link in future communication sessions (see Tuomenoksa et al., ¶ 83).

32. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halme as applied to claim 4 above, and further in view of Lubbers et al. (2003/0188035).

33. As per claim 9, Halme teaches mentioned limitations of claim 4 above but fails to teach a method, wherein said links associated with a tunnel are monitored for traffic overload and tunnels with overloaded links are avoided in selection step (b). However, Lubbers et al. teaches a method, wherein said links associated with a tunnel are monitored for traffic overload and tunnels with overloaded links are avoided in selection step (b) (see Lubbers et al., ¶ 64). It would have been obvious to one having ordinary

skill in the art at the time of the invention to modify Halme to a method, wherein said links associated with a tunnel are monitored for traffic overload and tunnels with overloaded links are avoided in selection step (b) in order to optimize data replication operations, both in terms of speed and ensuring in-order delivery, between two or more storage controllers in a SAN environment using a data transport protocol (see Lubbers et al., ¶ 31).

34. As per claim 14, the above-mentioned motivation of claim 9 applies fully in order to combine Halme and Lubbers et al. Halme and Lubbers et al. teach a method, wherein said devices exchange information regarding the address association between station addresses and the respective links, thereby allowing each device to maintain a local station table with information regarding address associations within a local network and a remote station table with information regarding interfaces located on remote networks (see Lubbers et al., ¶ 83).

35. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Halme ‘884 as applied to claim 4 above, and further in view of Halme (7,099,284). Halme ‘884 teaches mentioned limitations of claim 4 above but fails to teach a method, wherein each link is assigned a link load weight identifying available bandwidth, said link load weight used in selection step (b). However, Halme ‘284 teaches a method, wherein each link is assigned a link load weight identifying available bandwidth, said link load weight used in selection step (b) (see Halme ’284, col. 3, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify

Halme '884 to a method, wherein each link is assigned a link load weight identifying available bandwidth, said link load weight used in selection step (b) in order to realize a measurement method enabling the monitoring of the performance of an IPSec link (see Halme '284, col. 1, lines 61-65).

36. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neale et al. as applied to claim 18 above, and further in view of Halme (2002/0027884). Neale et al. teaches mentioned limitations of claim 18 above but fails to teach a multi-homing tunneling device, wherein said packets are transmitted via a single tunnel. However, Halme teaches a multi-homing tunneling device, wherein said packets are transmitted via a single tunnel (see Halme, ¶ 42). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Neale et al. to a multi-homing tunneling device, wherein said packets are transmitted via a single tunnel in order to realize a measurement method enabling the monitoring of the performance of an IPSec link (see Halme, ¶ 7).

37. Claims 17, 20-27, and 28-30 have similar limitations as to claims 1-16 and 18-19 above; therefore, they are being rejected under the same rationale.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ranodhi Serrao whose telephone number is (571)272-7967. The examiner can normally be reached on 8:00-4:30pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/R. N. S./

Examiner, Art Unit 2441

12/02/2008

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444